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COLLOID CHEMISTRY

INFLUENCE OF THE STRUCTURE OF HEAVY OIL DISPERSE SYSTEM ON ITS RHEOLOGICAL PROPERTIES UNDER STEAM-HEAT TREATMENT CONDITIONS

I. M. Zaidullin,[1] G. R. Valieva,[1] A. Kh. Aliev,[1] A. I. Lakhova,[1] A. V. Vakhin,[2] and S. M. Petrov[1,2]

The distinctive features of the structure and composition of hydrocarbon disperse systems in various types of heavy oils after steam-heat treatment, including use of low-boiling hydrocarbons, are determined. Methodological approaches are developed to determine the stability of heavy hydrocarbon resources as a function of composition and structure of the hydrocarbon disperse systems. Based on theoretical concepts of oil disperse systems, the composition of the latter is characterized quantitatively. A notable feature of low-viscosity oils is greater affinity of the components of the solvate shell and the dispersion medium. As a result, the dispersion medium participates in cross-linking of the oil disperse system significantly, which leads to a decrease in the dispersivity of the system and in its viscosity.

Keywords: *oil disperse system, heavy oil, aquathermolysis, oil group composition, IR spectroscopy, viscous flow activation energy.*

Reserves of conditioned hydrocarbons are approaching depletion, and on the list for exploitation are alternative forms of hydrocarbon resources such as heavy high-viscosity oils, which are complex petroleum disperse systems. Determination of features of the composition, structure, and properties of the disperse systems and study of their phase stability will help toward the development of technologies for their extraction,

[1]Kazan' National Research Technological UniversityKazan', Russia. [2]Kazan (Privolzhskii) Federal University,. Kazan', Russia. *E-mail: Lfm59@mail.ru*. Translated from *Khimiya i Tekhnologiya Topliv i Masel*, No. 4, pp. 12 – 17, July – August, 2017.

